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10/726,334	12/01/2003	Andreas H. von Flotow	367618016US1	5497

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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/726,334	VON FLOTOW ET AL.	
	Examiner	Art Unit	
	HEATHER R. JONES	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *See Continuation Sheet*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :6/21/04,6/28/04,6/8/05,12/2/05,12/11/06.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 35, 36, and 40 are rejected under 35 U.S.C. 102(e) as being anticipated by Brunner, Jr. et al. (U.S. Patent 6,672,535).

Regarding claim **35**, Brunner, Jr. et al. discloses a method for stabilizing images being taken from a video camera mounted on a moving vehicle, the camera having a line of sight being controlled by a line-of-sight controller, the method comprising: calculating inter-frame stabilization adjustments to account for velocity of the vehicle (col. 6, lines 36-40); displaying the images in accordance with the calculated inter-frame stabilization adjustments (Figs. 12 and 13); calculating line-of-sight adjustments for the line-of-sight controller based on the inter-frame stabilization adjustments (col. 6, lines 27-35); and controlling the line-of-sight controller in accordance with the calculated line- of-sight adjustments (col. 6, lines 27-35).

Regarding claim **36**, Brunner, Jr. et al. in view of Vincent discloses all the limitations as previously discussed with respect to claim 35 including that the calculating of the inter-frame stabilization adjustments factors in scan and tilt rate of the line-of-sight controller (col. 6, lines 19-35).

Regarding claim **40**, Brunner, Jr. et al. in view of Vincent discloses all the limitations as previously discussed with respect to claim 35 including that the calculated line-of-sight adjustment specifies a scan and tilt rate for the line-of-sight controller (col. 6, lines 26-35).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-3, 7-12, 20-22, and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brunner, Jr. et al. (U.S. Patent 6,672,535) in view of Vincent (U.S. Patent 6,292,215).

Regarding claim **1**, Brunner, Jr. et al. discloses a method for stabilizing an image of an object being taken from a video camera, the video camera being moved by a transport mechanism and being controlled by a line-of-sight controller, the method comprising: receiving a

plurality of images of the object (col. 1, lines 21-23 and 38-39_ ; and for each of the plurality of received images, receiving a velocity and orientation of the transport mechanism (col. 2, lines 23-24; col. 5, line 47 - col. 6, line 10); calculating an inter-frame stabilization adjustment based on the velocity and orientation of the transport mechanism, and the target location (col. 3, lines 47-64); calculating a line-of-sight adjustment for the line-of-sight controller based on the inter-frame stabilization (col. 3, lines 47-64); and controlling the line-of-sight controller in accordance with the calculated line-of-sight adjustment (col. 3, lines 57-61; col. 6, lines 11-25). However, Brunner, Jr. et al. fails to disclose receiving an orientation of the camera relative to the transport mechanism; receiving a scan and tilt rate of the camera; receiving a distance from the camera to the object; as well as using these parameters to calculate an inter-frame stabilization adjustment.

Referring to the Vincent reference, Vincent discloses a method of tracking an object and camera parameters, the method comprises receiving a plurality of images of the object; and for each plurality of received images, receiving an orientation of the camera relative to the transport mechanism (col. 6, lines 40-48); receiving a scan and tilt rate of the camera (col. 4, lines 16-27); receiving a distance from the camera to the object (col. 4, lines 3-15).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have received the camera

parameters as well as the range distance to the object as disclosed by Vincent in the method disclosed by Brunner, Jr. et al. in order to have used those parameters in calculating the line-of-sight adjustment in order to more accurately portray the target on the display.

Regarding claim **2**, Brunner, Jr. et al. in view of Vincent discloses all the limitations as previously discussed with respect to claim 1 including that the transport mechanism is an airborne vehicle (Fig. 2; col. 2, lines 33-40).

Regarding claim **3**, Brunner, Jr. et al. in view of Vincent discloses all the limitations as previously discussed with respect to claim 1 including that the line of sight of the camera is derived from the line-of-sight controller (col. 6, lines 19-26).

Regarding claim **7**, Brunner, Jr. et al. in view of Vincent discloses all the limitations as previously discussed with respect to claim 1 including that the controlling of the line-of-sight controller specifies rate of scan and tilt movement (Brunner, Jr. et al.: col. 6, lines 19-35).

Regarding claim **8**, Brunner, Jr. et al. in view of Vincent discloses all the limitations as previously discussed with respect to claim 1 including that the distance to the object is provided by a range finder (Vincent: col. 4, lines 12-15).

Regarding claim **9**, Brunner, Jr. et al. in view of Vincent discloses all the limitations as previously discussed with respect to claim 1 including that the distance to the object is calculated based on the line of sight of

the camera and the difference in altitude of the object and the camera (Vincent: col. 4, lines 12-15 – the distance from the camera to the subject being photographed is used and if the camera is in an airplane then altitude would be a factor in finding the distance).

Regarding claim **10**, Brunner, Jr. et al. in view of Vincent discloses all the limitations as previously discussed with respect to claim 1 including that the velocity of the transport mechanism is relative to the object (Brunner et al.: col. 5, lines 35-40).

Regarding claim **11**, Brunner, Jr. et al. in view of Vincent discloses all the limitations as previously discussed with respect to claim 1 including that the velocity of the transport mechanism is relative to an earth frame of reference (Brunner et al.: col. 5, lines 35-40).

Regarding claim **12**, Brunner, Jr. et al. in view of Vincent discloses all the limitations as previously discussed with respect to claim 1, but fails to disclose the calculated inter-frame stabilization adjustment factors in field of view of the display. Official Notice is taken that it is well known to include the field of view into an equation for stabilizing an image. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included the field of view of the display in the inter-frame stabilization calculation as disclosed by Brunner, Jr. et al. in view of Vincent because the more factors considered in the equation will result in a higher quality image.

Regarding claim **20** and **21**, this is an apparatus claim corresponding to the method claim 1. Therefore, claims 20 and 21 are analyzed and rejected as previously discussed with respect to claim 1. Furthermore, the image stabilization apparatus can be seen in Figs 4-8 of the Brunner, Jr. et al. reference.

Regarding claim **22**, this is an apparatus claim corresponding to the method claim 7. Therefore, claim 22 is analyzed and rejected as previously discussed with respect to claim 7.

Regarding claim **24**, Brunner, Jr. et al. in view of Vincent discloses all the limitations as previously discussed with respect to claim 20 including that the specified line-of-sight adjustment rate includes a user-specified image flow (Brunner, Jr. et al.: col. 6, lines 36-44 - the user can decide to track the target or decide to look at another target).

Regarding claim **25**, Brunner, Jr. et al. in view of Vincent discloses all the limitations as previously discussed with respect to claim 20 including that the mechanical line-of-sight controller is a motorized gimbal system (Brunner, Jr. et al.: Fig. 4).

Regarding claim **26**, Brunner, Jr. et al. in view of Vincent discloses all the limitations as previously discussed with respect to claim 20 including that the frame-to-frame adjustment keeps an object of the images at the same location when displayed (Brunner, Jr. et al.: Figs. 12 and 13; col. 4, lines 53-62; col. 5, line 35 - col. 6, line 44 - the camera is

updated with new parameters in order to keep the target in the center of the display).

5. Claims 4-6 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brunner, Jr. et al. in view of Vincent as applied to claim 1 above, and further in view of Claus et al. (U.S. Patent 7,133,067).

Regarding claim **4**, Brunner, Jr. et al. in view of Vincent discloses all the limitations as previously discussed with respect to claim 1, but fail to disclose adjusting the display of the images based on the inter-frame stabilization adjustment.

Referring to the Claus et al. reference, Claus et al. discloses a method for stabilizing an image on a display being utilized in a moving or flying carrier, wherein the method comprises adjusting the display of the images based on the inter-frame stabilization adjustment (col. 1, lines 24-30; col. 2, lines 23-27).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have adjusted the image display according to the image stabilization as disclosed by Claus et al. in method disclosed by Brunner, Jr. et al. in view of Vincent in order to eliminate unwanted movement influences of flight movements of the carrier on the image quality of the image recorded by the camera.

Regarding claim **5**, Brunner, Jr. et al. in view of Vincent in view of Claus et al. discloses all the limitations as previously discussed with respect to claims 1 and 4 including that the received images are larger

than the displayed images and the adjusting of the display of the images moves an area of a displayed image within the received image (Brunner, Jr. et al.: Figs. 12 and 13; col. 4, line 53 - col. 5, line 25 - it is well known in the art to adjust the image according to the display, for example if the user were to zoom in on the target the image would need to be adjusted for the display; Claus et al.: col. 2, lines 35-41).

Regarding claim **6**, Brunner, Jr. et al. in view of Vincent in view of Claus et al. discloses all the limitations as previously discussed with respect to claims 1 and 4 including that the inter-frame stabilization adjustment specifies the number of pixels in scan and tilt directions (Claus et al.: col. 2, lines 35-41).

Regarding claim **23**, this is an apparatus claim corresponding to the method claims 4 and 5. Therefore, claim 23 is analyzed and rejected as previously discussed with respect to claims 4 and 5.

6. Claims 13-19, 27, and 29-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brunner, Jr. et al. (U.S. Patent 6,672,535) in view of Plunk (U.S. Patent 5,259,037).

Regarding claim **13**, Brunner, Jr. et al. discloses a method for stabilizing an image of an object being taken from a video camera, the video camera being moved by a transport mechanism and being controlled by a line-of-sight controller, the method comprising: calculating an inter-frame stabilization adjustment based on the determined difference (col. 6, lines 11-17 - aircraft difference); calculating a line-of-sight

adjustment for the line-of-sight controller based on the inter-frame stabilization (col. 6, lines 18-25); and controlling the line-of-sight controller in accordance with the calculated line-of-sight adjustment (col. 6, lines 27-35). However, Brunner, Jr. et al. fails to determine a difference in the location of the object within the image from one frame to the next frame.

Referring to the Plunk reference, Plunk discloses a computer-assisted method for determining a position and orientation of a sensor relative to a scene, comprising the steps of: capturing a first image with an image sensor; identify at least two reference rage components in the first image; receive a subsequently captured image; compute displacement of the reference image components between the first and subsequent images; using the displacement, compute and update the current orientation information (col. 1, line 57 - col. 2, line 17).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the teaching of computing and updating the current orientation information of the camera relative to a scene as disclosed by Plunk with the method disclosed by Brunner, Jr. et al. in order to provide a way of sensing the orientation of a camera that is relatively immune to sabotage.

Regarding claim **14**, Brunner, Jr. et al. in view of Vincent discloses all the limitations as previously discussed with respect to claim 13, including that the determining of the difference includes analyzing scan

and tilt rate of the line-of-sight controller (Brunner, Jr. et al.: col. 6, lines 27-35).

Regarding claim **15**, Brunner, Jr. et al. in view of Vincent discloses all the limitations as previously discussed with respect to claim 13, including that the determining of the difference includes analyzing velocity of the transport mechanism (Brunner, Jr. et al.: col. 6, lines 36-41).

Regarding claim **16**, Brunner, Jr. et al. in view of Vincent discloses all the limitations as previously discussed with respect to claim 13, including that the determining of the difference includes analyzing line of sight of the camera (Plunk: col. 2, lines 10-24).

Regarding claim **17**, Brunner, Jr. et al. in view of Vincent discloses all the limitations as previously discussed with respect to claim 13, including that the determining of the difference includes analyzing orientation of the camera and the transport mechanism (Brunner, Jr. et al.: col. 6, lines 36-41).

Regarding claim **18**, Brunner, Jr. et al. in view of Vincent discloses all the limitations as previously discussed with respect to claim 13 including that the determining of the difference includes recognizing the object within the images (Plunk: col. 1, lines 57-67).

Regarding claim **19**, Brunner, Jr. et al. in view of Vincent discloses all the limitations as previously discussed with respect to claim 13, including that the calculated line-of-sight adjustment specifies a scan and tilt rate for the line-of-sight controller (Brunner, Jr. et al: col. 6, lines 27-35).

Regarding claim **27**, this is an apparatus claim corresponding to the method claim 13. Therefore, claim 27 is analyzed and rejected as previously discussed with respect to claim 13. Furthermore, the image stabilization apparatus can be seen in Figs 4-8 of the Brunner, Jr. et al. reference.

Regarding claim **29**, Brunner, Jr. et al. in view of Plunk discloses all the limitations as previously discussed with respect to claim 27 including that an amount of frame-to-frame image stabilization is additional based on the specified line-of-sight adjustment rate (Brunner, Jr. et al.: col. 6, lines 36-44 -tracking from frame-to-frame).

Regarding claim **30**, Brunner, Jr. et al. in view of Plunk discloses all the limitations as previously discussed with respect to claim 27 including that the line-of-sight adjustment rate includes a scan rate and a tilt rate (Brunner, Jr. et al.: col. 6, lines 27-35).

Regarding claim **31**, Brunner, Jr. et al. in view of Plunk discloses all the limitations as previously discussed with respect to claim 27 including an image received from the video camera is larger than a displayed image and the electronic stabilization component provides frame-to-frame image stabilization by adjusting the location of the displayed image within a received image (Brunner, Jr. et al.: Figs. 12 and 13; col. 4, line 53 - col. 5, line 25 - it is well known in the art to adjust the image according to the display, for example if the user were to zoom in on the target the image would need to be adjusted for the display).

Regarding claim **32**, Brunner, Jr. et al. in view of Plunk discloses all the limitations as previously discussed with respect to claim 27 including that the specified line-of-sight adjustment rate includes a user-specified image flow (Brunner, Jr. et al.: col. 6, lines 36-44 - the user can decide to track the target or decide to look at another target).

Regarding claim **33**, Brunner, Jr. et al. in view of Plunk discloses all the limitations as previously discussed with respect to claim 27 including that the mechanical line-of-sight controller is a motorized gimbal system (Brunner, Jr. et al.: Fig. 4).

Regarding claim **34**, Brunner, Jr. et al. in view of Plunk discloses all the limitations as previously discussed with respect to claim 27 including that the frame-to-frame adjustment keeps an object of the images at the same location when displayed (Brunner, Jr. et al.: Figs. 12 and 13; col. 4, lines 53-62; col. 5, line 35 - col. 6, line 44 - the camera is updated with new parameters in order to keep the target in the center of the display).

7. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brunner, Jr. et al. in view of Plunk as applied to claim 27 above, and further in view of Vincent (U.S. Patent 6,292,215).

Regarding claim **28**, Brunner, Jr. et al. in view of Plunk discloses all the limitations as previously discussed with respect to claim 27 including an amount of frame-to-frame image stabilization is additionally based on velocity and orientation of an airborne transport vehicle (col. 5, lines 36-40). However, Brunner, Jr. et al. in view of Plunk fails to disclose the

orientation of the camera relative to the airborne transport vehicle, and distance from the camera to the object within the image as part of the calculations.

Referring to the Vincent reference, Vincent discloses a method of tracking an object and camera parameters, the method comprises receiving a plurality of images of the object; and for each plurality of received images, receiving an orientation of the camera relative to the transport mechanism (col. 6, lines 40-48); receiving a scan and tilt rate of the camera (col. 4, lines 16-27); receiving a distance from the camera to the object (col. 4, lines 3-15).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have received the camera parameters as well as the range distance to the object as disclosed by Vincent in the method disclosed by Brunner, Jr. et al. in view of Plunk in order to have used those parameters in calculating the line-of-sight adjustment in order to more accurately portray the target on the display.

8. Claims 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brunner, Jr. et al. as applied to claim 35 above, and further in view of Vincent (U.S. Patent 6,292,215).

Regarding claim **37**, Brunner, Jr. et al. discloses all the limitations as previously discussed with respect to claim 35, but fails to disclose calculating of the inter-frame stabilization adjustments factors in line of sight of the camera.

Referring to the Vincent reference, Vincent discloses a method of tracking an object and camera parameters, the method comprises receiving a plurality of images of the object; and for each plurality of received images, receiving an orientation of the camera relative to the transport mechanism (col. 6, lines 40-48); receiving a scan and tilt rate of the camera (col. 4, lines 16-27); receiving a distance from the camera to the object (col. 4, lines 3-15).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have received the camera parameters as well as the range distance to the object as disclosed by Vincent in the method disclosed by Brunner, Jr. et al. in order to have used those parameters in calculating the line-of-sight adjustment in order to more accurately portray the target on the display.

Regarding claim **38**, Brunner, Jr. et al. discloses all the limitations as previously discussed with respect to claim 35, including calculating of the inter-frame stabilization adjustments factors in orientation of the vehicle (col. 5, lines 36-40). However, Brunner, Jr. et al. fails to disclose calculating of the inter-frame stabilization adjustments factors in orientation of the camera and the vehicle.

Referring to the Vincent reference, Vincent discloses a method of tracking an object and camera parameters, the method comprises receiving a plurality of images of the object; and for each plurality of received images, receiving an orientation of the camera relative to the

transport mechanism (col. 6, lines 40-48); receiving a scan and tilt rate of the camera (col. 4, lines 16-27); receiving a distance from the camera to the object (col. 4, lines 3-15).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have received the camera parameters as well as the range distance to the object as disclosed by Vincent in the method disclosed by Brunner, Jr. et al. in order to have used those parameters in calculating the line-of-sight adjustment in order to more accurately portray the target on the display.

9. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brunner, Jr. et al. as applied to claim 35 above, and further in view of Plunk (U.S. Patent 5,259,037).

Regarding claim **39**, Brunner, Jr. et al. discloses all the limitations as previously discussed with respect to claim 35, but fails to disclose calculating of the inter-frame stabilization adjustments includes recognizing an object within the images.

Referring to the Plunk reference, Plunk discloses a computer-assisted method for determining a position and orientation of a sensor relative to a scene, comprising the steps of: capturing a first image with an image sensor; identify at least two reference rage components in the first image; receive a subsequently captured image; compute displacement of the reference image components between the first and subsequent

images; using the displacement, compute and update the current orientation information (col. 1, line 57 - col. 2, line 17).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the teaching of computing and updating the current orientation information of the camera relative to a scene as disclosed by Plunk with the method disclosed by Brunner, Jr. et al. in order to provide a way of sensing the orientation of a camera that is relatively immune to sabotage.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. EO Target Geolocation Determination discloses calculating the current position of the target based on the current position of the vehicle and altitude of the target (Fig. 3; page 6 - the only inputs to the system are location of the sensor, the line of sight attitude, and the image; and the output is the location of the target).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HEATHER R. JONES whose telephone number is (571)272-7368. The examiner can normally be reached on Mon. - Thurs.: 7:00 am - 4:30 pm, and every other Fri.: 7:00 am - 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on 571-272-7353. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John W. Miller/
Supervisory Patent Examiner, Art Unit 2623

Heather R Jones
Examiner
Art Unit 2621

HRJ
March 29, 2008